WHAT IS CLAIMED IS:

1. A semiconductor resistor formed in a semiconductor material of a first conductivity type, the resistor comprising:

an active region of the semiconductor material;

an isolation region formed in the semiconductor material to surround the active region, and isolate the active region from laterally adjacent regions;

a layer of insulation formed on the active region;

a semiconductor structure formed on the isolation region and the layer of insulation so that the semiconductor structure partially overlies the active region; and

a doped region of a second conductivity type formed in the active region, the doped region lying adjacent to a side wall of the semiconductor structure.

2. The semiconductor resistor of claim 1 wherein the doped region includes a first region of a first dopant concentration, a second region of a second dopant concentration, and a third region of a third dopant concentration, the first dopant concentration being substantially larger than the dopant concentrations of the second and third regions, the second and third regions lying on opposite sides of and contacting the first region.

3. The semiconductor resistor of claim 1 wherein the doped region has a length and a width, the length being substantially longer than the width.

4. The semiconductor resistor of claim 1 and further comprising a pair of spaced-apart contact structures that make an electrical connection to the doped region, a current flowing into a first contact structure of the pair and out of a second contact structure of the pair.

5. The semiconductor resistor of claim 4 wherein the first contact structure includes a layer of salacide and a contact that is connected to the layer of salacide.

6. The semiconductor resistor of claim 1 and further comprising a semiconductor region formed on the isolation region and the layer of insulation so that the semiconductor region partially overlies the active region, the semiconductor region being spaced apart from the semiconductor structure, the doped region lying adjacent to a side wall of the semiconductor region.

7. The semiconductor resistor of claim 6 wherein the semiconductor structure and the semiconductor region are polysilicon.

8. The semiconductor resistor of claim 6 wherein the doped region includes a first region of a first dopant concentration, a second region of a second dopant concentration, and a third region of a third dopant concentration, the first dopant concentration being substantially larger than the dopant concentrations of the second and third regions, the second and third regions lying on opposite sides of and contacting the first region.

9. The semiconductor resistor of claim 6 wherein the doped region has a length and a width, the length being substantially longer than the width.

10. The semiconductor resistor of claim 6 and further comprising a pair of spaced-apart contact structures that make an electrical connection to the doped region, a current flowing into a first contact structure of the pair and out of a second contact structure of the pair.

11. The semiconductor resistor of claim 10 wherein the first contact structure includes a layer of salacide and a contact that is connected to the layer of salacide.

12. The semiconductor resistor of claim 1 wherein the semiconductor structure includes an opening, and the doped region lies below the opening.

13. The semiconductor resistor of claim 12 wherein a portion of the isolation region lies below the opening.

14. The semiconductor resistor of claim 12 wherein the doped region includes a first region of a first dopant concentration, a second region of a second dopant concentration, and a third region of a third dopant concentration, the first dopant concentration being substantially larger than the dopant concentrations of the second and third regions, the second and third regions lying on opposite sides of and contacting the first region.

15. The semiconductor resistor of claim 12 wherein the doped region has a length and a width, the length being substantially longer than the width.

16. The semiconductor resistor of claim 12 and further comprising a pair of spaced-apart contact structures that make an electrical connection to the doped region, a current flowing into a first contact structure of the pair and out of a second contact structure of the pair.

17. The semiconductor resistor of claim 16 wherein the first contact structure includes a layer of salacide and a contact that is connected to the layer of salacide.

18. A method of forming a semiconductor resistor in a semiconductor device, the device having:

a semiconductor material of a first conductivity type, the resistor comprising:

an active region of the semiconductor material; and

an isolation region formed in the semiconductor material to surround the active region, and isolate the active region from laterally adjacent regions;

the method comprising the steps of:

forming a layer of insulation on the active region;

forming a semiconductor structure on the isolation region and the layer of insulation so that the semiconductor structure partially overlies the active region; and

forming a doped region of a second conductivity type formed in the active region, the doped region lying adjacent to a side wall of the semiconductor structure.

19. The method of claim 18 wherein the doped region includes a first region of a first dopant concentration, a second region of a second dopant concentration, and a third region of a third dopant concentration, the first dopant concentration being substantially larger than the dopant concentrations of the second and third regions, the second and third regions lying on opposite sides of and contacting the first region.

20. The method of claim 18 wherein the doped region has a length and a width, the length being substantially longer than the width.